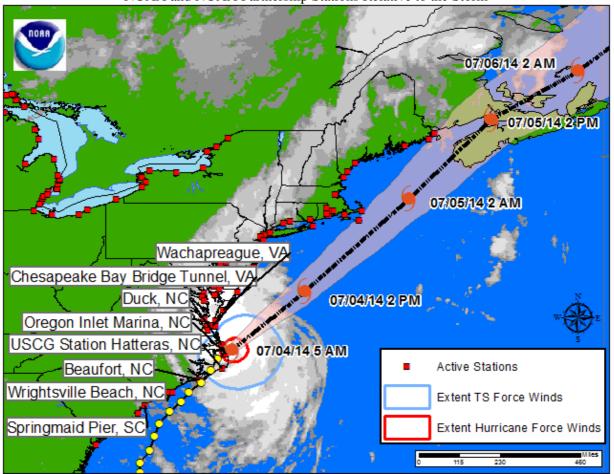


NOAA and NOAA Partnership Stations Relative to the Storm



Storm Analysis

As of 07/04/2014 06:00 EDT, water levels in North Carolina in the Pamlico sound to Outer Banks are 1.75 to 2 feet above tidal predictions. Water levels in Souther North Carolina are about .8 feet above predictions. Levels have dropped .8 feet below predictions in South Carolina. Water levels at Oregon Inlet Marina, NC are 3.98 feet above predictions though. Wind speeds increased dramatically in North Carolina and are increasing in Virginia, ranging from 10 to 40 knots with higher gusts. Wind speeds up to 50 knots were recorded in Hatteras, NC, with gusts up to 70 knots. Barometric pressure is rapidly falling in Pamlico Sound while it is rising to the south.

Water Level and Meteorological plots available below are updated automatically. A line denoting <u>Mean Higher High Water</u> (MHHW) is displayed to provide an approximate indication of when flooding inundation may occur.

For additional data, please see the <u>Center for Operational Oceanographic Products & Services</u> website. For more information or archived products and reports, please see the <u>Storm QuickLook</u> Homepage.

Analyst: ADW			

SELECT NATIONAL HURRICANE CENTER ADVISORY INFORMATION:

HURRICANE ARTHUR ADVISORY NUMBER 14 500 AM EDT FRI JUL 04 2014

- ...ARTHUR MOVING OFFSHORE OF THE OUTER BANKS...
- ...EXPECTED TO PASS SOUTHEAST OF CAPE COD TONIGHT...

WATCHES AND WARNINGS

CHANGES WITH THIS ADVISORY...

THE TROPICAL STORM WARNING FOR CAPE COD HAS BEEN EXTENDED WESTWARD TO WOODS HOLE.

THE HURRICANE WARNING WEST OF CAPE LOOKOUT NORTH CAROLINA HAS BEEN DISCONTINUED.

SUMMARY OF WATCHES AND WARNINGS IN EFFECT...

A HURRICANE WARNING IS IN EFFECT FOR...

- * CAPE LOOKOUT NORTH CAROLINA TO THE NORTH CAROLINA/VIRGINIA BORDER
- * PAMLICO SOUND
- * EASTERN ALBEMARLE SOUND

A TROPICAL STORM WARNING IS IN EFFECT FOR...

- * THE NORTH CAROLINA/VIRGINIA BORDER TO CAPE CHARLES LIGHT VIRGINIA...INCLUDING THE MOUTH OF THE CHESAPEAKE BAY
- * WESTERN ALBEMARLE SOUND
- * NANTUCKET
- * CAPE COD FROM PROVINCETOWN TO WOODS HOLE

A TROPICAL STORM WATCH IS IN EFFECT FOR...

- * NEW BRUNSWICK FROM THE U. S./CANADA BORDER TO GRAND-ANSE
- * ALL OF NOVA SCOTIA INCLUDING CAPE BRETON ISLAND
- * ALL OF PRINCE EDWARD ISLAND

A HURRICANE WARNING MEANS THAT HURRICANE CONDITIONS ARE EXPECTED SOMEWHERE WITHIN THE WARNING AREA. PREPARATIONS TO PROTECT LIFE AND PROPERTY SHOULD HAVE ALREADY BEEN COMPLETED.

A TROPICAL STORM WARNING MEANS THAT TROPICAL STORM CONDITIONS ARE EXPECTED SOMEWHERE WITHIN THE WARNING AREA.

A TROPICAL STORM WATCH MEANS THAT TROPICAL STORM CONDITIONS ARE POSSIBLE WITHIN THE WATCH AREA.

INTERESTS ELSEWHERE IN COASTAL PORTIONS OF NEW ENGLAND...NEW BRUNSWICK...AND NEWFOUNDLAND SHOULD MONITOR THE PROGRESS OF ARTHUR.

FOR STORM INFORMATION SPECIFIC TO YOUR AREA IN THE UNITED STATES...INCLUDING POSSIBLE INLAND WATCHES AND WARNINGS...PLEASE MONITOR PRODUCTS ISSUED BY YOUR LOCAL NATIONAL WEATHER SERVICE FORECAST OFFICE. FOR STORM INFORMATION SPECIFIC TO YOUR AREA OUTSIDE THE UNITED STATES...PLEASE MONITOR PRODUCTS ISSUED BY YOUR NATIONAL METEOROLOGICAL SERVICE.

DISCUSSION AND 48-HOUR OUTLOOK

AT 500 AM EDT...0900 UTC...THE EYE OF HURRICANE ARTHUR WAS LOCATED BY NOAA DOPPLER RADAR NEAR ABOUT 20 MI E OF KITTY HAWK NORTH CAROLINA AND ABOUT 85 MI SE OF NORFOLK VIRGINIA. ARTHUR IS MOVING TOWARD THE NORTHEAST NEAR 23 MPH AND THIS MOTION IS EXPECTED TO CONTINUE WITH AN INCREASE IN FORWARD SPEED DURING THE NEXT COUPLE OF DAYS. ON THE FORECAST TRACK...THE CENTER OF ARTHUR WILL MOVE WELL OFFSHORE OF THE MID-ATLANTIC COAST OF THE UNITED STATES TODAY...PASS SOUTHEAST OF NEW ENGLAND TONIGHT...AND BE NEAR OR OVER WESTERN NOVA SCOTIA EARLY SATURDAY.

MAXIMUM SUSTAINED WINDS ARE NEAR 100 MPH WITH HIGHER GUSTS. SOME WEAKENING IS FORECAST DURING THE NEXT 48 HOURS...AND ARTHUR IS EXPECTED TO BECOME A POST-TROPICAL CYCLONE TONIGHT OR SATURDAY.

HURRICANE FORCE WINDS EXTEND OUTWARD UP TO 40 MILES FROM THE CENTER...AND TROPICAL STORM FORCE WINDS EXTEND OUTWARD UP TO 125 MILES...205 KM. A WEATHERFLOW STATION IN WAVES NORTH CAROLINA RECENTLY REPORTED A SUSTAINED WIND OF 74 MPH AND A GUST OF 84 MPH.

THE ESTIMATED MINIMUM CENTRAL PRESSURE BASED ON SURFACE OBSERVATIONS IS 973 MB. A NOAA NATIONAL OCEAN SERVICE STATION AT OREGON INLET RECENTLY REPORTED A PRESSURE OF 975.5 MB.

HAZARDS AFFECTING LAND

WIND...TROPICAL STORM CONDITIONS WILL CONTINUE IN PORTIONS OF THE TROPICAL STORM WARNING AREA IN VIRGINIA THIS MORNING. HURRICANE CONDITIONS WILL CONTINUE IN PORTIONS OF THE HURRICANE WARNING AREA DURING THE NEXT FEW HOURS. TROPICAL STORM CONDITIONS ARE EXPECTED TO REACH THE WARNING AREA IN NEW ENGLAND BY TONIGHT.

STORM SURGE...THE COMBINATION OF A DANGEROUS STORM SURGE AND THE TIDE WILL CAUSE NORMALLY DRY AREAS NEAR THE COAST TO BE FLOODED BY RISING WATERS. THE WATER COULD REACH THE FOLLOWING HEIGHTS ABOVE GROUND IF THE PEAK SURGE OCCURS AT THE TIME OF HIGH TIDE...

NORTH CAROLINA WITHIN THE HURRICANE WARNING AREA...3 TO 5 FT PAMLICO AND ALBEMARLE SOUNDS...2 TO 4 FT EXTREME SOUTHEASTERN VIRGINIA...1 TO 3 FT

COASTAL FLOODING IS ALSO POSSIBLE ALONG CAPE COD.

THE HIGHEST WATER WILL OCCUR ALONG THE IMMEDIATE COAST IN AREAS OF ONSHORE FLOW. THE SURGE WILL BE ACCOMPANIED BY LARGE AND DAMAGING WAVES. SURGE-RELATED FLOODING DEPENDS ON THE RELATIVE TIMING OF THE SURGE AND THE TIDAL CYCLE...AND CAN VARY GREATLY OVER SHORT DISTANCES. FOR INFORMATION SPECIFIC TO YOUR AREA...PLEASE SEE PRODUCTS ISSUED BY YOUR LOCAL NATIONAL WEATHER SERVICE OFFICE AND THE NEW EXPERIMENTAL POTENTIAL STORM SURGE FLOODING MAP FOR MORE DETAILS.

RAINFALL...RAINFALL WILL BE DIMINISHING OVER EASTERN NORTH CAROLINA THIS MORNING WITH STORM TOTAL ACCUMULATIONS OF 4 TO 6 INCHES AND ISOLATED MAXIMUM OF 8 INCHES POSSIBLE. RAINFALL TOTALS OF 1 TO 2 INCHES ARE POSSIBLE OVER SOUTHEASTERN VIRGINIA. RAINFALL ACCUMULATIONS OF 2 TO 4 INCHES ARE POSSIBLE ACROSS RHODE ISLAND...EASTERN MASSACHUSETTS AND COASTAL MAINE.

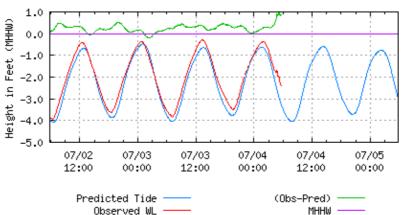
SURF...SWELLS GENERATED BY ARTHUR ARE AFFECTING AREAS ALONG THE COAST OF NORTH CAROLINA...AND WILL SPREAD NORTHWARD ALONG THE MID-ATLANTIC AND NORTHEAST COASTS OF THE UNITED STATES TODAY. THESE SWELLS ARE EXPECTED TO CAUSE LIFE-THREATENING SURF AND RIP CURRENTS. FOR MORE INFORMATION...PLEASE MONITOR PRODUCTS ISSUED BY YOUR LOCAL NATIONAL WEATHER SERVICE FORECAST OFFICE.

FORECASTER BRENNAN

For the purpose of timely release, data contained within this QuickLook have undergone a "limited" NOS Quality Assurance/Control; however, the data have not yet undergone final verification. All data subject to NOS verification.

Jump to: Wachapreague - Water Level, Wachapreague - Winds, Chesapeake Bay Bridge Tunnel - Water Level, Chesapeake Bay Bridge Tunnel - Winds, Duck - Water Level, Duck - Winds, Duck - Barometric, Duck - Air/Water Temp, Oregon Inlet Marina - Water Level, Oregon Inlet Marina - Winds, Oregon Inlet Marina - Barometric, Oregon Inlet Marina - Air/Water Temp, USCG Station Hatteras - Water Level, USCG Station Hatteras - Winds, USCG Station Hatteras - Barometric, USCG Station Hatteras - Air/Water Temp, Beaufort - Water Level, Beaufort - Winds, Beaufort - Barometric, Beaufort - Air/Water Temp, Wrightsville Beach - Winds, Wrightsville Beach - Barometric, Wrightsville Beach - Air/Water Temp, Springmaid Pier - Water Level, Springmaid Pier - Winds

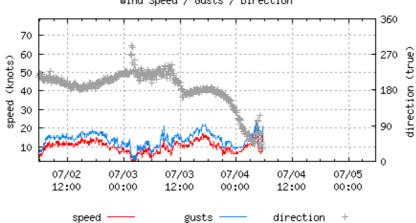
$NOAA/NOS/CO-OPS~\underline{8631044~Wachapreague,~VA}\\ Preliminary~Water~Level,~relative~to~Mean~Higher~High~Water(MHHW)\\$



Last Observed Sample: 07/04/2014 05:42 (EDT). Data relative to MHHW Observed: -2.38 ft. Predicted: -3.26 ft. Residual: 0.88 ft.

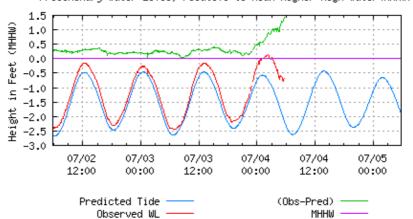
Historical Maximum Water Level: Feb 5 1998, 4.41 ft. Next High Tide: 07/04/2014 14:18 (EDT), -0.60 ft.

NOAA/NOS/CO-OPS 8631044 Wachapreague, VA Wind Speed / Gusts / Direction



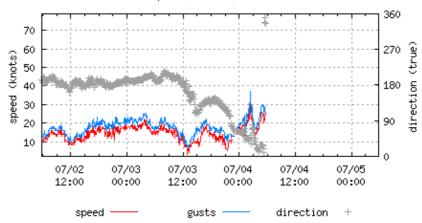
Last Observed Sample: 07/04/2014 05:42 (EDT) Wind Speed: 16 knots Gusts: 20 knots Direction: 36° T

$NOAA/NOS/CO-OPS \underbrace{8638863\ Chesapeake\ Bay\ Bridge\ Tunnel,\ VA}_{\text{Preliminary\ Water\ Level},\ relative\ to\ Mean\ Higher\ High\ Water(MHHW)}$



Last Observed Sample: 07/04/2014 05:36 (EDT). Data relative to MHHW Observed: -0.70 ft. Predicted: -2.15 ft. Residual: 1.45 ft. Historical Maximum Water Level: Nov 12 2009, 4.66 ft. Next High Tide: 07/04/2014 13:48 (EDT), -0.43 ft.

NOAA/NOS/CO-OPS <u>8638863 Chesapeake Bay Bridge Tunnel, VA</u> Wind Speed / Gusts / Direction

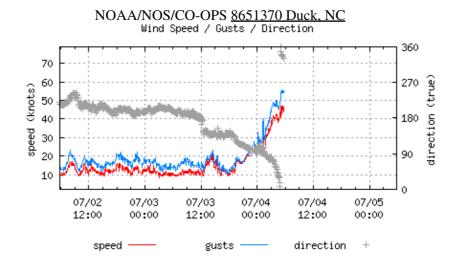


Last Observed Sample: 07/04/2014 05:36 (EDT) Wind Speed: 26 knots Gusts: 29 knots Direction: 337° T

NOAA/NOS/CO-OPS 8651370 Duck, NC Preliminary Water Level, relative to Mean Higher High Water(MHHW) 3.0 Height in Feet (MHHW) 2.0 1.0 0.0 -1.0 -2.0 -3.0 -4.0 07/04 07/04 07/02 07/03 07/03 07/05 12:00 00:00 12:00 00:00 12:00 00:00 Predicted Tide (Obs-Pred) Observed WL

Last Observed Sample: 07/04/2014 05:42 (EDT). Data relative to MHHW Observed: -2.13 ft. Predicted: -3.27 ft. Residual: 1.14 ft. Historical Maximum Water Level: Sep 18 2003, 4.13 ft. Next High Tide: 07/04/2014 13:05 (EDT), -0.59 ft.

MHHW



Last Observed Sample: 07/04/2014 05:42 (EDT) Wind Speed: 44 knots Gusts: 55 knots Direction: 332° T

NOAA/NOS/CO-OPS <u>8651370 Duck</u>, <u>NC</u> Barometric Pressure

1016 1012 1008 Pressure (mb) 1004 1000 996 992 988 984 980 976 07/02 07/03 07/03 07/04 07/04 07/05 12:00 00:00 12:00 00:00 12:00 00:00

barometric pressure ——

Last Observed Sample: 07/04/2014 05:42 (EDT)

Barometric Pressure: 993.0 mb

NOAA/NOS/CO-OPS 8651370 Duck, NC

Air / Water Temperature 85 80 65 60 07/02 07/03 07/03 07/04 07/04 07/05 12:00 00:00 12:00 00:00 12:00 00:00

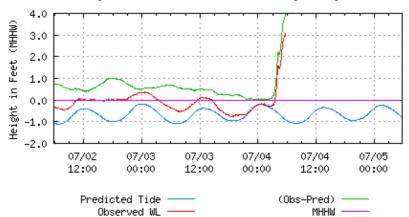
Temperature (F)

Last Observed Sample: 07/04/2014 05:42 (EDT) Water Temperature: 62.2° F Air Temperature: 70.2° F

air temp

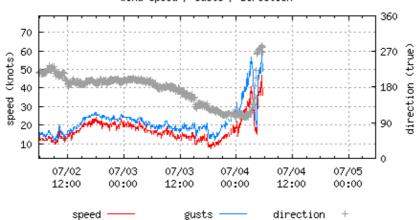
water temp.

NOAA/NOS/CO-OPS <u>8652587 Oregon Inlet Marina, NC</u> Preliminary Water Level, relative to Mean Higher High Water(MHHW)



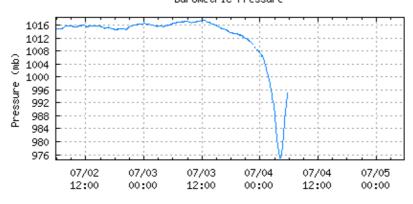
Last Observed Sample: 07/04/2014 05:42 (EDT). Data relative to MHHW Observed: 3.07 ft. Predicted: -0.91 ft. Residual: 3.98 ft. Historical Maximum Water Level: Aug 28 2011, 6.32 ft. Next High Tide: 07/04/2014 13:34 (EDT), -0.34 ft.

NOAA/NOS/CO-OPS 8652587 Oregon Inlet Marina, NC Wind Speed / Gusts / Direction



Last Observed Sample: 07/04/2014 05:42 (EDT) Wind Speed: 36 knots Gusts: 49 knots Direction: 267° T

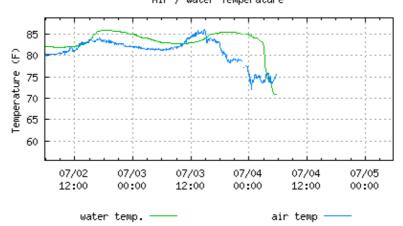
NOAA/NOS/CO-OPS <u>8652587 Oregon Inlet Marina, NC</u> Barometric Pressure



barometric pressure —— Last Observed Sample: 07/04/2014 05:42 (EDT)

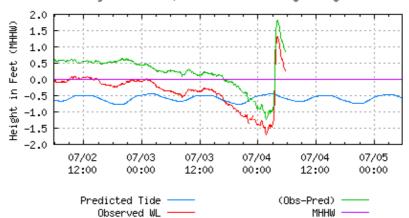
Barometric Pressure: 995.0 mb

NOAA/NOS/CO-OPS <u>8652587 Oregon Inlet Marina, NC</u> Air / Water Temperature



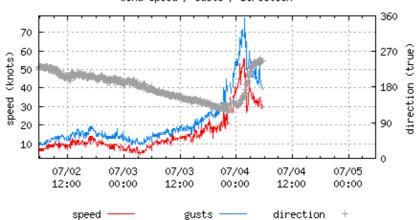
Last Observed Sample: 07/04/2014 05:42 (EDT) Water Temperature: 70.9° F Air Temperature: 75.7° F

NOAA/NOS/CO-OPS <u>8654467 USCG Station Hatterss</u>, <u>NC</u> Preliminary Water Level, relative to Mean Higher High Water(MHHW)



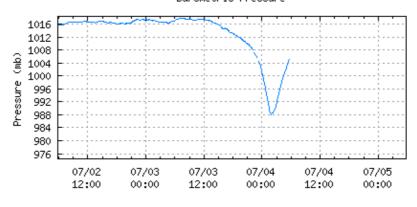
Last Observed Sample: 07/04/2014 05:36 (EDT). Data relative to MHHW Observed: 0.27 ft. Predicted: -0.59 ft. Residual: 0.86 ft. Historical Maximum Water Level: Oct 29 2012, 4.15 ft. Next High Tide: 07/04/2014 14:41 (EDT), -0.50 ft.

NOAA/NOS/CO-OPS 8654467 USCG Station Hatteras, NC Wind Speed / Gusts / Direction



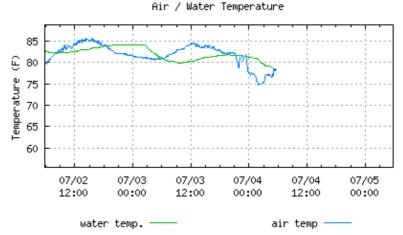
Last Observed Sample: 07/04/2014 05:36 (EDT) Wind Speed: 30 knots Gusts: 39 knots Direction: 247° T

NOAA/NOS/CO-OPS $\underline{8654467\ USCG\ Station\ Hatteras,\ NC}_{\text{Barometric}\ Pressure}$



barometric pressure ——
Last Observed Sample: 07/04/2014 05:36 (EDT)
Barometric Pressure: 1005.1 mb

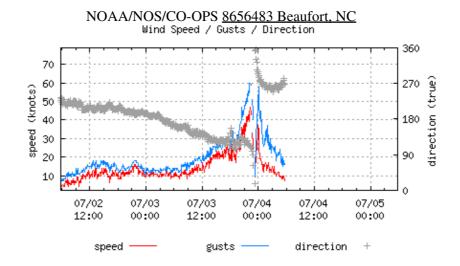
NOAA/NOS/CO-OPS <u>8654467 USCG Station Hatteras, NC</u>



Last Observed Sample: 07/04/2014 05:36 (EDT) Water Temperature: 78.4° F Air Temperature: 78.3° F

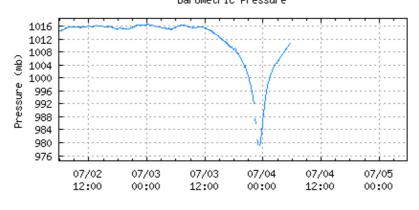
NOAA/NOS/CO-OPS 8656483 Beaufort, NC Preliminary Water Level, relative to Mean Higher High Water(MHHW) 3.0 Height in Feet (MHHW) 2.0 1.0 0.0 -1.0 -2.0 -3.0 -4.0 07/02 07/04 07/03 07/03 07/05 07/04 12:00 00:00 12:00 00:00 12:00 00:00 Predicted Tide (Obs-Pred) Observed WL MHHW

Last Observed Sample: 07/04/2014 05:36 (EDT). Data relative to MHHW Observed: -2.56 ft. Predicted: -2.81 ft. Residual: 0.25 ft. Historical Maximum Water Level: Sep 14 2005, 3.01 ft. Next High Tide: 07/04/2014 13:38 (EDT), -0.60 ft.



Last Observed Sample: 07/04/2014 05:36 (EDT) Wind Speed: 7 knots Gusts: 16 knots Direction: 269° T

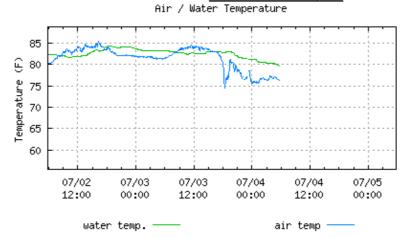
$\begin{array}{c} NOAA/NOS/CO\text{-}OPS \ \underline{8656483 \ Beaufort, NC} \\ \text{Barometric Pressure} \end{array}$



barometric pressure ——
Last Observed Sample: 07/04/2014 05:36 (EDT)

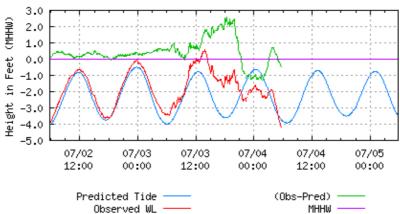
Barometric Pressure: 1010.6 mb

NOAA/NOS/CO-OPS <u>8656483 Beaufort</u>, NC



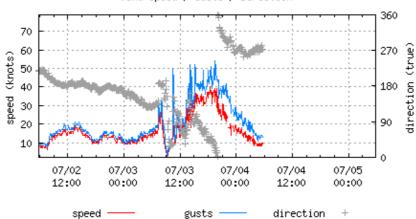
Last Observed Sample: 07/04/2014 05:36 (EDT) Water Temperature: 79.7° F Air Temperature: 76.3° F

NOAA/NOS/CO-OPS <u>8658163 Wrightsville Beach, NC</u> Preliminary Water Level, relative to Mean Higher High Water(MHHW)



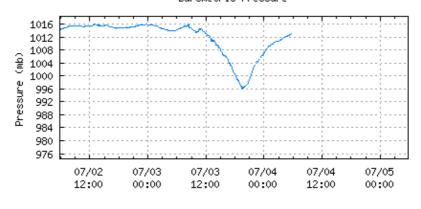
Last Observed Sample: 07/04/2014 05:36 (EDT). Data relative to MHHW Observed: -4.20 ft. Predicted: -3.71 ft. Residual: -0.49 ft. Historical Maximum Water Level: Sep 25 2008, 2.81 ft. Next High Tide: 07/04/2014 13:09 (EDT), -0.70 ft.

NOAA/NOS/CO-OPS 8658163 Wrightsville Beach, NC Wind Speed / Gusts / Direction



Last Observed Sample: 07/04/2014 05:36 (EDT) Wind Speed: 10 knots Gusts: 13 knots Direction: 272° T

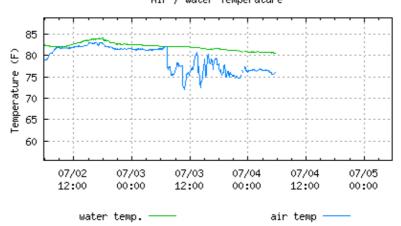
$NOAA/NOS/CO-OPS \underbrace{8658163 \ Wrightsville \ Beach, NC}_{\text{Barometric Pressure}}$



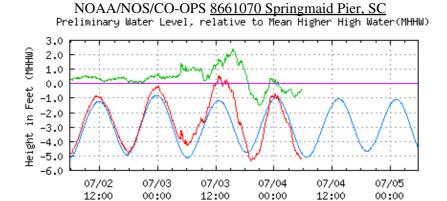
barometric pressure —— Last Observed Sample: 07/04/2014 05:36 (EDT)

Barometric Pressure: 1013.0 mb

NOAA/NOS/CO-OPS <u>8658163 Wrightsville Beach, NC</u> Air / Water Temperature



Last Observed Sample: 07/04/2014 05:36 (EDT) Water Temperature: 80.6° F Air Temperature: 76.1° F



Last Observed Sample: 07/04/2014 05:42 (EDT). Data relative to MHHW Observed: -5.13 ft. Predicted: -4.78 ft. Residual: -0.35 ft.

(Obs-Pred)

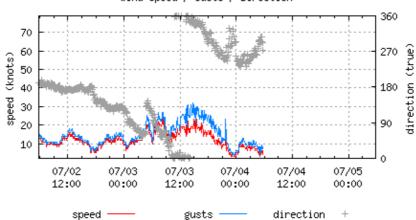
MHHW

Predicted Tide

Observed WL

Historical Maximum Water Level: Jan 1 1987, 3.65 ft. Next High Tide: 07/04/2014 13:22 (EDT), -1.04 ft.

NOAA/NOS/CO-OPS <u>8661070 Springmaid Pier, SC</u> Wind Speed / Gusts / Direction



Last Observed Sample: 07/04/2014 05:42 (EDT) Wind Speed: 4 knots Gusts: 7 knots Direction: 273° T

Latest Water Level Observations on MHHW

Station ID	Station Name	Date/Time	Observed Water Level	Predicted Tide	Residual Water Level	24 Hour Maximum Storm Tide
8631044	Wachapreague, VA	07/04/2014 05:42 (EDT)	-2.38 ft	-3.26 ft	0.88 ft	-0.29 ft
8638863	Chesapeake Bay Bridge Tunnel, VA	07/04/2014 05:36 (EDT)	-0.70 ft	-2.15 ft	1.45 ft	0.14 ft
8651370	Duck, NC	07/04/2014 05:42 (EDT)	-2.13 ft	-3.27 ft	1.14 ft	-0.01 ft
8652587	Oregon Inlet Marina, NC	07/04/2014 05:42 (EDT)	3.07 ft	-0.91 ft	3.98 ft	3.07 ft
8654467	USCG Station Hatteras, NC	07/04/2014 05:36 (EDT)	0.27 ft	-0.59 ft	0.86 ft	1.31 ft
8656483	Beaufort, NC	07/04/2014 05:36 (EDT)	-2.56 ft	-2.81 ft	0.25 ft	1.38 ft
8658163	Wrightsville Beach, NC	07/04/2014 05:36 (EDT)	-4.20 ft	-3.71 ft	-0.49 ft	0.59 ft
8661070	Springmaid Pier, SC	07/04/2014 05:42 (EDT)	-5.13 ft	-4.78 ft	-0.35 ft	0.53 ft

Center for Operational Oceanographic Products & Services (CO-OPS) | National Ocean Service (NOS) National Oceanic and Atmospheric Administration | U.S. Department of Commerce